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Sarah Diffley is an Assistant Lecturer in Marketing at Letterkenny Institute of Technology. This research was conducted as part of her PhD at Queen’s University Management School, Queen’s University Belfast. Her research focuses on the potential exhibited by social networking sites as a means of leveraging the co-creative competence of customers to create value.

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Informed by the resource-based view, this study draws on customer relationship management (CRM) and value co-creation literature to develop a framework examining the impact of social networking sites on processes to manage customer relationships. Facilitating the depth and networked interactions necessary to truly engage customers, social networking sites act as a means of enhancing customer relationships through the co-creation of value, moving CRM into a social context. Tested and validated on a data set of hotels, the main contribution of the study to service research lies in the extension of CRM processes, termed relational information processes, to include value co-creation processes due to the social capabilities afforded by social networking sites. Information technology competency and social media orientation act as critical antecedents to these processes, which have a positive impact on both financial and non-financial aspects of firm performance. The theoretical and managerial implications of these findings are discussed accordingly.

Keywords: customer relationships; information management; interaction management; organisational routines; social networks.

Introduction

Customer relationship management (CRM) literature has long emphasised the necessity to create co-value as a means of developing and maintaining customer relationships, achieved through the process of interacting with customers and managing the information garnered from those interactions (Boulding, Staelin, Ehret, & Johnston, 2005; Payne & Frow, 2005). However, while CRM focuses on developing and maintaining profitable, mutually beneficial customer relationships through the co-creation of value (Boulding et al., 2005; Ernst, Hoyer, Krafft, & Krieger, 2011; Payne & Frow, 2005), the results of CRM initiatives have been mixed, with many failures reported (Jayachandran, Sharma, Kaufman, & Raman, 2005; Zablah, Bellenger, & Johnston, 2004). Marketers are increasingly paying attention to social media technologies as a means of overcoming the obstacles encountered in implementing effective CRM initiatives, thus extending CRM into a social CRM context (Greenberg, 2010; Gummesson & Mele, 2010; Trainor, 2012; Trainor, Andzulis, Rapp, & Agnihotri, 2014).

Informed by the resource-based view (RBV), this study proposes a model that applies and extends the relational information processes developed by Jayachandran et al. (2005) to investigate the impact of social networking sites on organisational routines necessary for CRM. The social capabilities afforded by social networking technologies, when combined with the interaction and information management capabilities inherent in relational information processes, are proposed to facilitate the co-creation of value with customers. That is, social networking sites are anticipated to offer the depth and networked interactions necessary to engage customers in the co-creation of value, reflecting the true nature of customer relationships and hence CRM.

The study was conducted in the Irish hotel industry. Given that customer experiences are central to the tourism and hospitality industry, the relationship that exists between firms and customers has become increasingly interactive, providing opportunities for value co-creation. Accessing customer information necessary to co-create value can occur in several ways in the hotel industry, including guest comment cards, questionnaires, trials, face-to-face discussions and gauging customer reactions (Shaw, Bailey, & Williams, 2011). Social networking sites are becoming increasingly important as a means of accessing this valuable customer information in the hotel industry (Shaw et al., 2011; Sigala, 2009). The output of value co-creation activities can extend to numerous aspects of hotel operations, including refurbishment activities, in-room technologies, room design, customer dining experiences and website booking engines.

Putting the 'social' in customer relationship management

A review of literature indicates three distinct but related reasons explaining the mixed successes of CRM initiatives. First, Gummesson (2006) attributes the one-to-one focus of CRM initiatives as a reason for the difficulties and failures encountered by companies. The one-to-one or dyadic view fails to account for the widened view of relationships that typically involves more than two customers or companies, leading to a networked or many-to-many perspective (Gummesson & Mele, 2010). Second, the lack of interactivity delivered by traditional CRM technologies, which typically facilitate one-way monologues, have inhibited the ability of companies to engage with customers in these networked relationships (Trainor, 2012). Third, the belief that investment in CRM technology alone is enough to act as a means of improving performance is impractical (Fan & Ku, 2010). Improved performance is achieved through a process of combining technological and additional resources, which, due to their complementary nature, result in the development of distinctive capabilities (Trainor et al., 2014). In effect, CRM technologies result in enhanced customer relationships when applied to customer-centric business processes (Jayachandran et al., 2005; Rapp, Trainor, & Agnihotri, 2010), a perspective that is aligned with that of the RBV (Coltman, 2007a; Rapp et al., 2010).

Social CRM extends the concept of CRM to include 'the integration of traditional customer-facing activities including processes, systems, and technologies with emergent social media applications to engage customers in collaborative conversations and enhance customer relationships' (Trainor, 2012, p. 319). The high-level company-customer interactions afforded by social technologies provides a means of more effectively engaging and co-creating value with customers, resulting in a more complete picture of customers and their networks being obtained. This is achieved as social CRM technologies capture the networked, many-to-many reality of customer relationships not previously possible with traditional CRM technologies. Hence, the collaborative activities afforded by social CRM technologies move customer relationships towards a process of engaging rather than managing people (Greenberg, 2010).

Theoretical background and hypotheses

The RBV proposes that the true source of competitive advantage for a firm lies in its ability to acquire and control valuable resources that are rare and inimitable. These resources extend to the management skills, processes and routines, and information and knowledge that exist within a firm, facilitating greater levels of efficiency and effectiveness (Barney, 1991). Resources may then be combined in a manner that facilitates the development of capabilities, defined by Rapp et al. (2010, p. 1229) as ‘a firm's ability to assemble, integrate and deploy valuable resources in combination to achieve superior performance’. Hence, capabilities represent the purposeful, knowledge-based combination of resources in a certain manner in order to develop complex and inimitable capabilities that provide a means of gaining competitive advantage (Zablah et al., 2004). The RBV has garnered significant attention in marketing strategy, information technology (IT) and information systems literature in order to determine the specific mix of resources, and hence capabilities that are necessary in order to achieve superior levels of firm performance; given that a focus on technological resources alone has been found insufficient as a means of gaining a competitive advantage (Coltman, 2007a; Rapp et al., 2010). Therefore, it is evident that CRM literature is nested within the RBV (Coltman, 2007a; Kermati, Mehrabi, & Mojir, 2010; Rapp et al., 2010) and that the success of CRM initiatives extends beyond the deployment of technological resources alone to the combination of technological, human and business-related resources. It is the combination of these resources that facilitate the development of capabilities in managing customer relationships (Coltman, 2007a). Dynamic capabilities literature extends the RBV to address the dynamic nature of the business environment. Dynamic capabilities represent ‘the firm’s ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments’ (p. 516). Thus, the routines or processes that reconfigure resources act as the key source of competitive advantage (Teece, Pisano & Shuen, 1997). The importance of reconfiguring knowledge-based resources has been stressed in the literature (Eisenhardt & Martin, 2000). Knowledge facilitates learning and learning is inherently social in nature (Teece, Pisano & Shuen, 1997). Literature draws attention to the role of digital resources in facilitating dynamic capabilities. Bharadwaj, El Sawy, Pavlou,& Venkatraman, (2013, p 472) cite the example of Susarla, Oh and Tan (2012) to exemplify how digital technologies are ‘transforming the structure of social relationships in both the consumer and enterprise space with social media and social networking’.

Both CRM and value co-creation literature view the co-creation of value as a means of gaining a competitive advantage and it is only through interactive relationships that this co-creation of value is achieved (Boulding et al., 2005; Vargo & Lusch, 2004). Interactions allow parties to communicate their needs and wants, which in turn, creates a foundation for the exchange of valuable resources. These resources can be intangible and/or tangible in nature and, through meeting the needs and wants of the parties involved in the exchange, serve to create and maintain stronger relationships. As such, interactions rather than goods act as the core of relationships, shifting the focus of value from one of value exchange to value creation (Gummesson & Mele, 2010). Interactions facilitate communication and it is through this communication that exchange takes place, including the exchange of information between a firm and its customers. This information is essential in developing customer relationships and it is ‘imperative that organizations use the information to shape appropriate responses to customer needs. In effect, information plays a key role in building and maintaining customer relationships’ (Jayachandran et al., 2005, p. 178). This suggests that intangible resources are essential in developing customer relationships and co-creating value with them. A firm can easily invest in the same CRM technologies as competitors, which alone does not result in the same or higher levels of performance being achieved. It is when inimitable, intangible CRM resources are combined with tangible CRM resources that a sustainable competitive advantage is achieved (Kim, Kim, & Park, 2010).

This view of value co-creation is in line with that stressed by the Service Dominant (S-D) logic, first introduced by Vargo & Lusch (2004). The S-D logic views that it is intangible ‘operant resources’ that act as a means of gaining a competitive advantage. Knowledge and skills represent these operant resources. This emphasises that goods (operand resources) are not sufficient in gaining a competitive advantage. They must be acted upon by operant resources in order to product an effect (Vargo & Lusch, 2006). Hence, firms are concerned with the exchange of service – the ‘application of specialised competencies (operant resources – knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself’ (Vargo & Lusch, 2006, p. 43) shifting the focus of value to those processes that integrate and transform resources. Accordingly, value is co-created by producers and consumers through the integration of resources and application of competences (Lusch & Vargo, 2006). A firm cannot deliver value but only offer value propositions, which if accepted by the customer leads to the co-creation of value (Vargo & Lusch, 2004). The enactment of value propositions is known as value-in-use and acts as a driver in the value co-creation process. Value-in–use has been extended to the more S-D logic friendly term of value-in-context to acknowledge that value is determined by the customer based on contextual factors (Vargo, Maglio & Akaka, 2008). The importance of networks is also implied within the S-D logic. Networks act as links between buyers and sellers (Lusch & Vargo, 2006). In order for value to be co-created interactive, reciprocal relationships are inferred (Ballantyne & Varey, 2006). As the process of value co-creation requires the integration, transformation and application of resources from various parties, these relationships occur in networks (Vargo, 2008), thus emphasising many-to-many marketing communications (Cova & Salle, 2008).

The significant amount of research in the CRM domain has resulted in the emergence of five divergent perspectives of CRM: CRM as a process, strategy, philosophy, capability and technology. While each perspective provides valuable insight into the CRM concept, it is the process perspective that is advocated as the most appropriate CRM lens as it acknowledges the changing and evolving nature of buyer-seller relationships (Zablah et al., 2004). The process perspective of CRM has been adopted in numerous research studies (e.g. Ernst et al., 2011; Jayachandran et al., 2005; Payne & Frow, 2005; Reinartz, Krafft, & Hoyer, 2004). A process perspective of social CRM is adopted in the current study, with the proposed conceptual model shown in Figure 1.

(Insert Figure 1)

Process perspective of social CRM

The CRM process perspective views resources as inputs that are transformed in a manner that allows desired outputs to be achieved. Therefore, resources play a critical role in the CRM process (Zablah et al., 2004). As emphasised by the RBV, it is the unique combination of resources that allow distinctive capabilities to be developed, thereby providing a competitive advantage (Coltman, 2007a; Rapp et al., 2010). At a process level, intangible complex resources that are difficult to identify and describe act as a means of developing the capabilities necessary to build and maintain profitable, mutually beneficial customer relationships (Raman, Wittman, & Rauseo, 2006). As resources are enablers of CRM processes, ‘CRM capabilities can be best described at the process level’ (Kermati et al., 2010, p. 1177).

The centrality of customer interaction and information management in the CRM process is stressed in CRM literature (Boulding et al., 2005; Fan & Ku, 2010; Garrido-Moreno & Padilla-Meléndez, 2011; Jayachandran et al., 2005; Mithas, Krishnan, & Fornell, 2005; Payne & Frow, 2005). Hence, CRM processes should be designed to facilitate close customer-company interactions (Raman et al., 2006). The collection of information from these interactions may then be processed such that customer knowledge can be generated and applied to respond to customer needs, regardless of context (Mithas et al., 2005). Consequently, the management of information is also essential as ‘to collect information about customers in the context of a relationship, and offer those customers a superior value proposition based on this knowledge, will be a key advantage, hard to imitate’ (Garrido-Moreno & Padilla-Meléndez, 2011, p. 438).

Similarly, value co-creation literature stresses the importance of customer interactions and information. Interaction, as the locus of value co-creation, allows dialogue to be established and the transfer of operant resources (skills and knowledge) to take place. This forms the basis for value co-creation. The quality of interactions between a firm and its customers is also important as it has a direct impact on motivation and ability to co-create value, implying that interactions must be managed effectively (Fyrberg & Jüriado, 2009). Value co-creation literature also draws attention to the exchange and application of knowledge in the co-creation process. Ballantyne & Varey (2006) note that knowledge renewal: the process of generating, sharing and applying knowledge is a more accurate description of the role played by knowledge in gaining a competitive advantage. To derive value from knowledge, it must be acted upon. As knowledge and knowledge renewal are central to the co-creation of value, knowledge management practices in a firm should be designed around value co-creation, and hence knowledge renewal processes (Payne, Storbacka, & Frow, 2008). As emphasised by Echeverri & Skålén (2011, p. 354), ‘it is only when the knowledge and skills, or the operant resources, are active or activated that value co-creation takes place’.

Based on these findings, this study determines that information and interaction management represent the capabilities necessary to execute the CRM process in order to build and maintain customer relationships that allow the co-creation of value to take place. Following the need to integrate CRM technologies with CRM processes, it can be deduced that social CRM technologies must be integrated with existing CRM technologies and processes as a means of improving customer relationships, and hence firm performance (Boulding et al., 2005; Jayachandran et al., 2005; Payne & Frow, 2005; Rapp et al., 2010; Zablah et al., 2004). Through the provision of the social capabilities necessary to truly interact and engage with customers in a networked context, social CRM resources act as a means of gaining a competitive advantage through the co-creation of value with customers.

Jayachandran et al. (2005) describe the process of interacting with customers and managing customer information to establish long-term relationships as relational information processes. Originally consisting of five dimensions of information reciprocity, information capture, information integration, information access and information use, these dimensions represent the organisational routines essential for CRM. This research adds a sixth dimension, value co-creation, to the original conceptualisation. This is warranted as the social capabilities afforded by social networking sites, when integrated with these dimensions, facilitate the depth interactions necessary to co-create value with customers, accounting for social CRM processes.

Dimensions of relational information processes

Information reciprocity

Information reciprocity refers to the processes that facilitate mutual, high-level information exchanges to take place between a firm and its customers. Interaction and dialogue are aspects of information reciprocity (Ballantyne & Varey, 2006; Prahalad & Ramaswamy, 2004; Ramaswamy & Gouillart, 2010). Interaction facilitates dialogue which in turn facilitates the shaping of value propositions and the exchange of important information (operant resources) which may then be applied in the co-creation of value (Gummesson & Mele, 2010). The depth and networked interactions facilitated by social networking sites provide the additional customer insights that traditional CRM technologies have been lacking (Greenberg, 2010).

Information capture

Comprehensive and current customer information must be obtained from customer interactions if customer relationships are to be developed (Jayachandran et al., 2005). This information must also be kept up-to-date to offset any change in the definition of value from any stakeholder in the value network (Lusch & Webster, 2011). In light of the vast amounts of valuable customer information available via social networking sites, capturing information from these sites is essential.

Information integration

It is necessary to integrate customer information from the various sources that interact with customers in order to develop a comprehensive account of customer relationships and to ensure that customer information is not lost. Not only must customer information be collected across customer touch points but it must also be collated if a true understanding of customers is to be achieved (Payne & Frow, 2005). This extends to the integration of information collected from social networking sites with information collected via traditional CRM technologies (Trainor, 2012).

Information access

Those employees who actively develop value propositions and co-create value with customers must have access to current and full customer information in order to do so effectively (Lusch & Webster, 2011). Also, an organisation must capture and apply the information garnered from co-creative interactions in order to improve future co-creative experiences (Karpen, Bove, & Lukas, 2012). In order to achieve this, it can be inferred that access to the appropriate information by employees who undertake co-creative activities is necessary, including those who engage with customers via social networking sites.

Information use

The information acquired from customer interactions must be applied if it is to aid in understanding customer needs, wants and behaviours (knowledge-enhancing use) and lead to the development of market offerings that meet these needs and wants (action-oriented use) (Jayachandran et al., 2005). In order to co-create value, information from dialogical interactions must first be applied in order to develop and maintain customer relationships. The use of this information results in customer engagement, the creation of meaningful, deep and long-term connections between a firm and its customers (vanDoorn et al., 2010). It is within states of customer engagement that the co-creation of value occurs (Brodie, Hollebeck, Juric, & Ilic, 2011; vanDoorn et al., 2010) . Consequently, the information acquired from customer interactions via social CRM and traditional CRM technologies must be applied if it is to provide knowledge-enhancing and action-oriented use, which both serve to build and maintain profitable, mutually beneficial customer relationships within which the co-creation of value takes place.

Value co-creation

Value co-creation represents ‘a firm’s efforts to interact with customers to co-construct their consumption experiences’ (O'Cass & Ngo, 2011, p 652). The process of value co-creation is such that the customer is central to the co-creation experience (Prahalad & Ramaswamy, 2004). To allow customers to co-create their own experiences, firms must provide the necessary assistance and support (Karpen et al., 2012). In effect, firms should strive to be an efficient and effective service support system (Lusch & Webster, 2011) as it is the responsibility of the firm to create and manage value co-creation opportunities. The business strategy must be one of understanding the processes by which customers create value and determining which of these processes they will support. The firm then aims to support customer processes so that better value may be co-created (Payne et al., 2008). As it is within states of customer engagement that the co-creation of value takes place (Brodie et al., 2011; vanDoorn et al., 2010) information must first be applied to build and maintain customer relationships. Upon the development of these relationships, customer information may then be applied as a means of co-creating value with customers. As full, comprehensive and consistent information is necessary to develop customer relationships (Jayachandran et al., 2005), it is the integration of information from social CRM and traditional CRM technologies that provides the information necessary to engage and hence co-create value with customers.

Antecedents to relational information processes

Drawing on the RBV, it is the purposeful combination of technological, human and business resources that facilitates the development of capabilities necessary to manage customer relationships as a means of gaining a competitive advantage. The sub-processes comprising relational information processes represent business resources that combine to facilitate the development of interaction and information management capabilities. When the social capabilities facilitated by social networking sites are combined with these capabilities, the sub-processes comprising relational information processes can be extended to include value co-creation processes. It is proposed that IT competency and social media orientation act as critical antecedents in developing relational information processes.

IT competency

IT competency reflects the knowledge and use of IT as a means of managing information within a firm. The three components of an IT competency relate to the IT knowledge of staff, IT skills of staff, and the quality of IT infrastructure within a firm (Tippins & Sohi, 2003). Thus, IT competency represents the combination of human and technological CRM resources (Coltman, 2007a; Rapp et al., 2010). CRM literature communicates the importance of the appropriate IT infrastructure and the requisite skills and knowledge among staff to effectively use physical IT resources to interact with customers and manage customer information (Coltman, 2007a; Rapp et al., 2010; Zablah et al., 2004). Furthermore, as value co-creation processes require the effective management of knowledge (Payne et al., 2008) the knowledge, skills and infrastructure to manage information must exist within a firm. Therefore, IT competency will positively influence the development of relational information processes within a firm. Thus:

H1: IT competency has a positive association with relational information processes.

Social media orientation

Culture represents a business-related CRM resource, one that Coltman (2007a) advocates is essential as a means of capitalising upon technological and human CRM resources. While many firms can employ similar technologies and possess similar skills, few will have a culture that understands how best to use these resources as a means of building superior customer relationships. Representative of the culture that exists within a firm (Noble, Sinha, & Kumar, 2002), a firm’s orientation embodies the strategic dimension of CRM (Trainor, 2012). In order to implement CRM effectively, top management must demonstrate that CRM represents the strategic orientation of the firm (Becker, Greve, & Albers, 2009). As social CRM refers to the integration of social media technologies with traditional CRM processes and customer-facing activities (Trainor, 2012), a culture that understands the key role played by social networking sites in leveraging the co-creative competence of customers and adopts a strategic view of social CRM processes will be more successful in its implementation of relational information processes. Accordingly:

H2: Social media orientation has a positive association with relational information processes.

Performance outcomes of relational information processes

The process perspective of CRM, and the RBV within which it is embedded, conveys that it is resources, combined in a unique manner that facilitates the development of distinctive capabilities necessary to achieve superior levels of firm performance (Barney, 1991; Zablah et al., 2004). Similarly, the S-D logic details that it is through the identification and development of operant resources that superior firm performance is achieved (Madhavaram & Hunt, 2008). CRM literature indicates CRM initiatives positively impact financial (Fan & Ku, 2010) and non-financial aspects of firm performance (Jayachandran et al., 2005).

Customer performance

The effective management of customer relationships should result in higher levels of customer satisfaction (Jayachandran et al., 2005; Mithas et al., 2005), loyalty (Gustafsson & Johnson, 2005), retention (Jayachandran et al., 2005) and acquisition (Reinartz et al., 2004). The information acquired through customer interactions provides a means whereby customer needs and expectations can be understood and responded to more effectively, thus enhancing customer performance outcomes (Kim et al., 2010; Mithas et al., 2005). This is just as important in the context of social CRM, as the value co-creation potential offered by social networks should, through the increased interactivity they afford between a firm and its customer’s, further enhance levels of customer performance through appealing to the active role desired by customers (Trainor, 2012). From a customer performance perspective, appealing to the active role desired by customers’ results in enhanced satisfaction and loyalty (vanDoorn et al., 2010). In addition, customer satisfaction and loyalty results in positive word-of-mouth, referrals, and the generation and dissemination of information which aids in the acquisition of new customers as well as the retention of existing ones (vanDoorn et al., 2010). Therefore, the interaction and information management capabilities evident within relational information processes act as a means of understanding and responding to customer needs and expectations. When combined with the social capabilities offered by social networking sites, relational information processes, and hence customer performance, are further enhanced. Therefore:

H3: Relational information processes have a positive association with customer performance.

Financial performance

Given that CRM is concerned with the management of profitable customer relationships, the performance outcomes of CRM initiatives must communicate the financial outcomes of CRM initiatives (Boulding et al., 2005). The positive impact of CRM initiatives on financial aspects of performance has been observed (Fan & Ku, 2010) but continues to be of critical importance in light of the failure of many CRM initiatives (Ahearne, Rapp, Mariadoss, & Ganesan, 2012). As noted by Trainor (2012), capitalising on social CRMs ability to engage customers in the co-creation of value is, through the forging of stronger relationships with customers essential in order to positively impact financial performance. That is, the increased levels of customer engagement afforded by social technologies serves to enhance the bonds that exist between a firm and its customers, which in turn positively impacts financial performance (Stone & Woodcock, 2013). Given the depth and networked interactions facilitated by social networking sites, such outcomes and behaviours should be even more prevalent. Hence:

H4: Relational information processes have a positive association with financial performance.

Method

Sample and data collection

Given the high contact and experiential nature of the hospitality industry (Shaw, Bailey, & Williams, 2011), data were collected from the Irish hotel industry.

The conceptual framework was tested using data obtained from survey research. The research instrument took the form of a survey questionnaire. Respondents were offered the opportunity to complete a postal or an online version of the questionnaire, accessible via a link included in the cover letter accompanying the postal questionnaire. The sampling frame consisted of all hotels in the Republic of Ireland who have established a social networking presence. Based on extant literature, a social networking presence was defined as the development of an active profile and/or participation on social networking platforms. A census of hotels in the Republic of Ireland was obtained and vetted to establish how many were still in operation and had a social networking presence. Only hotels with an active social networking presence were considered for inclusion in the study. If hotels had not been active on social networking platforms in the previous three months, respondents were considered not to have maintained an active social networking presence. Of the 854 hotels in active operation in the Republic of Ireland, 757 (88.64%) had developed a profile on a social networking site. Consistent with previous research, the survey was mailed to those individuals listed as senior managers for each hotel (Haugland, Myrtveit, & Nygaard, 2007; Ordanini & Parasuraman, 2011). Follow-up telephone calls were made two-weeks after mailing questionnaires. A sample size of 120 surveys was obtained, resulting in a response rate of 15.85%. Similar or smaller sample sizes have been obtained in previous CRM studies (e.g. Coltman, (2007b), Kermati et al., (2010) and Nguyen & Waring (2013) obtained sample sizes of 91, 77 and 126 respectively).

Measure development

The measures employed to test the conceptual framework are detailed in the appendix. Consistent with Jayachandran et al. (2005), relational information processes is conceptualised as a higher order construct. This also follows Coltman's (2007a) proposition of CRM as an organisational routine that is best conceptualised as a higher order construct.

Hotel size, star rating, location and *hotel type* represent covariates in the study. Studies demonstrate that each of these factors impact the use of IT within hotels, for example, smaller hotels, hotels with lower star ratings, and hotels in rural locations tend to make smaller investments in information technologies (Matzler, Pechlaner, Abfalter, & Wolf, 2005). Hotel type (dependent or independent) may also impact the capabilities that can be developed by the hotel itself because being part of a dependent structure can limit the capabilities an individual hotel can cultivate (Haugland et al., 2007; Ordanini & Parasuraman, 2011). Hotel size, star rating, location and hotel type were measured using multiple-choice questions. As per previous studies, number of rooms was used as an indicator of hotel size (Ordanini & Parasuraman, 2011).

Data analysis approach

The survey data were analysed using the Statistical Package for the Social Sciences (version 20) for preliminary analysis and exploratory factor analysis. Partial least squares structural equation modelling was then used to test the conceptual model. Partial least squares structural equation modelling is increasingly being utilised in business and marketing research as it works well with complex models, smaller sample sizes and exhibits a greater degree of statistical power than co-variance based structural equation modelling approaches (Hair Jr., Hult, Ringle, & Sarstedt, 2014).

Results

A series of exploratory factory analyses were undertaken on the data. An iterative process was used to eliminate items with low loadings or cross loadings, leading to the elimination of a single item from the social media orientation and financial performance measure which demonstrated poor fit. Then, using partial least squares structural equation modelling, the repeated indicators approach was employed to establish the hierarchical component model of the study. When employing the repeated indicators technique, the indicators of lower order constructs belonging to a higher order construct should be equal to avoid bias that emerges as a result of an unequal number of indicators per lower-order construct (Hair Jr. et al., 2014). To have an equal number of indicators across the lower order constructs of the higher order constructs in the study meant that some of the relational information process items had to be removed. Values greater than .70 demonstrate strong indicator reliability (Hair, Ringle, & Sarstedt, 2011). Therefore, as part of the removal process, those indicators with loadings lower than 0.7 were removed first. Where loadings were over .70, the lowest loadings were removed. The appendix lists the construct items retained after exploratory factor analysis and repeated indicators analysis.

Measurement model evaluation

Measurement model evaluation is concerned with establishing the reliability and validity of constructs. This involves evaluating four main criteria: indicator reliability, internal consistency, convergent validity and discriminant validity (Hair Jr. et al., 2014).

Indicator loadings were used to evaluate the *indicator reliability* of the model. Outer loading values exceeding .07 demonstrate strong indicator reliability (Hair et al., 2011). However, as detailed by Hair Jr. et al. (2014), values above .40 are acceptable subject to further investigation. The loadings of indicators on each lower and higher order construct are detailed in the appendix. Three loadings were lower than .70. However, these loadings exceeded the .40 value detailed by Hair Jr. et al. (2014) and were retained subject to validity tests.

Cronbach’s alpha was used to assess *internal consistency.* Values above .70 are recommended in confirmatory research. Average variance extracted was employed to establish *convergent validity*, with values greater than .50 desirable (Hair Jr. et al., 2014). Cronbach’s alpha and average variance extracted values for each of the constructs in the research study are presented in Table 1. As evident in Table 1, internal consistency and convergent validity are established.

(Insert Table 1)

Discriminant validity was assessed using the criteria proposed by Fornell & Larcker (1981). The average variance extracted for each construct was compared to the shared variance between each construct and the other constructs in the hypothesised framework. The results, as detailed in Table 2, demonstrate that the average variance extracted for each construct is greater than its shared variance with the other constructs, supporting discriminant validity.

(Insert Table 2)

Structural model evaluation

The structural model was first examined by assessing the coefficient of determination (R^2) and Stone-Geisser (Q^2) values. The coefficient of determination calculates the squared correlation between the actual and predicted values of endogenous constructs in order to predict the accuracy of the model. The Stone-Geisser value utilises a blindfolding procedure to establish the difference between the true and predicted data points in order to predict the relevance of the model (Hair Jr. et al., 2014). Both the R^2 and Q^2 values act as a means of assessing the fit of partial least squares structural equation models in the absence of global goodness-of-fit criteria (Hennig-Thurau, Houston, & Walsh, 2006; Hulland, 1999). Cohen (1988) details that R^2 values of .02, .15 and .35 represent small, medium and large effect sizes, respectively. Q^2 values exceeding 0 for endogenous constructs demonstrate good predictive relevance. Table 3 illustrates R^2 and Q^2 values, with results indicating that the model has a good predictive power.

(Insert Table 3)

The significance and relevance of the structural model relationships were then assessed. Direct effects were tested by running the partial-least squares. Bootstrapping was employed to obtain standard errors and t-values (Hair Jr. et al., 2014). H1 posited that IT competency has a positive association with relational information processes. This association was supported ($\beta = .260$; t-value = 3.783; $p < .001$). H2, the positive association between social media orientation and relational information processes was also supported ($\beta = .591$; t-value = 10.569; $p < .001$). Relational information processes were also found to have a positive association with customer and financial performance, supporting H3 ($\beta = .281$; t-value = 2.737; $p < .01$) and H4 ($\beta = .250$; t-value = 2.576; $p < .01$). The covariates did not have any significant effects on relational information processes and customer and financial performance.

Discussion and implications

In the era of the digitally empowered customer, there is an increasing amount of pressure on companies to involve customers in value creation processes as a means of building and maintaining customer relationships. Despite the emphasis of CRM literature on the co-creation of value, CRM initiatives have experienced mixed outcomes (Jayachandran et al., 2005; Zablah et al., 2004), with academics attributing these failures to the lack of interactivity provided by traditional CRM technologies (Trainor, 2012) and the dyadic rather than networked view of customer relationships (Gummesson, 2006). Despite the potential exhibited by social networking sites as platforms for value co-creation, literature is scant regarding how this can be undertaken in practice (Echeverri & Skålén, 2011; Payne et al., 2008). Hence, this study extends CRM literature in a social CRM context to investigate the set of activities carried out by a firm, inclusive of social networking activities, in order to co-create value with customers and as a result, build and maintain profitable, mutually beneficial customer relationships. Findings contribute significantly to social CRM literature by demonstrating that social networking sites have revolutionised the CRM process by allowing the true, co-creative nature of firm customer relationships to be realised. Furthermore, the identification of relational information processes as those organisational routines necessary to co-create value with customers demonstrates that investment in CRM technology alone is not sufficient for improving firm performance (Coltman, 2007a; Trainor et al., 2014). Relational information processes must be designed around the co-creation of value, and social networking sites acting as enabler, provide a means whereby this can be achieved. The requisite human, technological and business resources must also exist within a firm, evident in the identification of IT competency and social media orientation as important antecedents to relational information processes.

Social CRM studies conducted by Choudhury & Harrigan (2014) and Trainor et al. (2014) also adopt aspects of relational information processes. However, this research study is the first to explicitly integrate social networking sites within each of these processes rather than as a separate social media technology use index. Accordingly, this research study fully investigates the impact of integrating these social CRM resources within CRM processes.

In addition, this study is the first to extend relational information processes to include a sixth dimension of value co-creation in light of the social capabilities afforded by social networking sites.

Theoretical implications

In addition to the significant contributions made to nascent social CRM literature, this research study has several theoretical implications, the first being the theoretical framework demonstrating how value co-creation can be managed in practice; an area in which extant value co-creation literature has been lacking (Echeverri & Skålén, 2011; Payne et al., 2008). Second, the theoretical framework is empirically tested and validated, which too has been lacking (Perks, Gruber, & Edvardsson, 2012). Consequently, the research study adds to the limited body of empirical research on how value co-creation processes can be employed in practice (Karpen et al., 2012; Payne et al., 2008). Third, interaction and information management capabilities, in line with the social capabilities afforded by social networking sites are identified as those capabilities necessary to engage customers in value co-creation practices. Inclusive of the antecedents and outcomes of these capabilities, this research contributes to what is outlined by Madhavaram & Hunt (2008) as an important research avenue in marketing strategy – the conceptualisation, measurement, antecedents and consequences of a firm's co-creation capability. Fourth, the identification of the central role played by social networking sites in value co-creation processes made by this study has also been lacking (Karpen et al., 2012; Payne et al., 2008). The integration of social networking sites with value co-creation processes makes a fifth contribution by extending CRM literature into a social CRM context (Greenberg, 2010; Trainor, 2012), demonstrating that social technologies provide the much needed interactivity and holistic view of relationships necessary to achieve the co-creation of value that has been emphasised by CRM literature.

Managerial implications

This research study has several managerial implications. First, value co-creation is occurring in practice and relational information processes act as key organisational routines if the co-creative potential of customers is to be leveraged effectively. Therefore, management must focus on developing interaction and information management capabilities should they wish to pursue effective social CRM initiatives, which concentrate on enhancing customer relationships through the co-creation of value. The integration of social applications in these processes allows the true co-creative nature of the CRM process to be recognised.

Second, the identification of IT competency and social media orientation as key antecedents necessary to implement relational information processes successfully further aids managers on how value co-creation can be achieved in practice. The importance of IT competency reinforces that technology alone will not result in a competitive advantage. The skills and knowledge to use this technology must also exist within the firm. The importance of a social media orientation also demonstrates that a culture that understands the key role played by social networking sites in leveraging the co-creative competence of customers must exist. This must be reflected in the goals, policies and actions developed and implemented within the firm.

Third, the direct and positive impact of relational information processes on customer and financial performance demonstrates the strategic and marketing benefit of integrating social networking sites into organisational routines (Reibstein, Day, & Wind, 2009). Management must acknowledge the importance of social networking sites in enhancing customer relationships and integrate these sites within organisational routines as a means of engaging customers in those co-creative relationships that result in superior levels of firm performance.

Limitations and further research

Despite the numerous theoretical and managerial contributions made by the study, limitations do exist. The study focuses on role of social networking sites as platforms for value co-creation. While this does include a host of social media sites such as Facebook, Twitter, Google+ and Pinterest, the social media ecosystem encompasses a variety of platforms including blogs, forums and social bookmarking. Future research could focus on the role of other social media platforms in the value co-creation process.

Social networking sites were selected as the focus of the study due to the large growth experienced by these sites and the increased networking and interaction potential they offer on a social and professional level (Cheung & Lee, 2010). This could also be extended to include other digital innovations that have altered the manner in which customers interact with one another and how they produce, store and distribute information.

The study also focuses on a single industry, which, while improving internal validity, limits the generalizability of the research (Sheehan & Stabell, 2006). Consequently, the replication of the study in different industries provides an avenue for future research.

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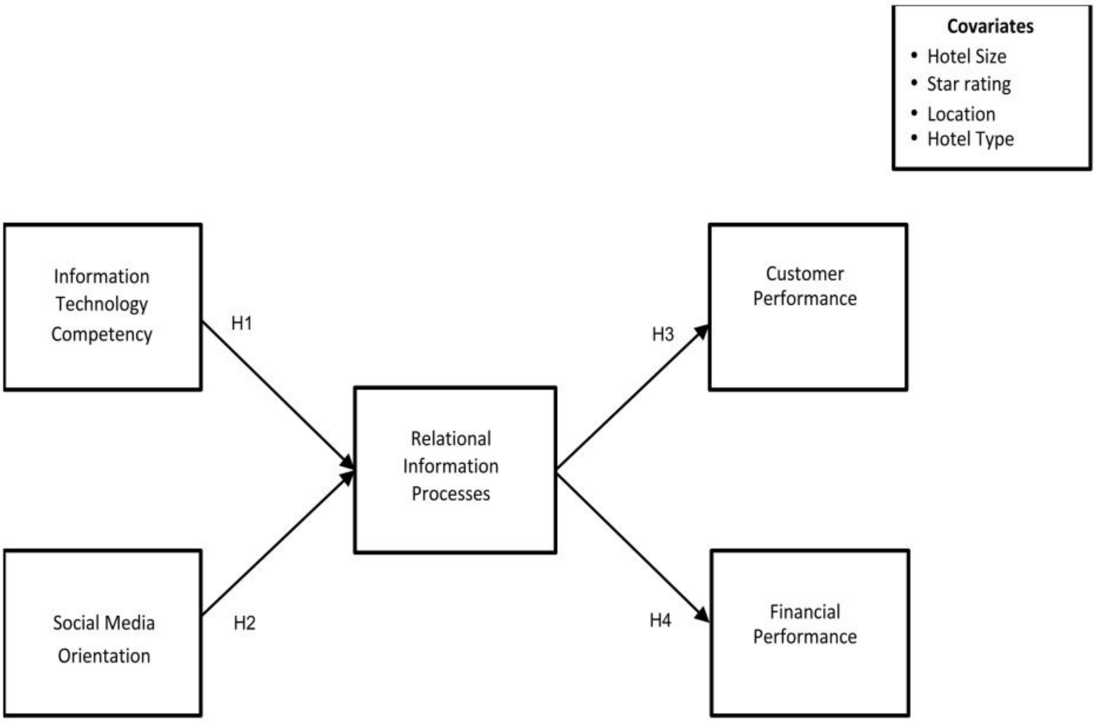
Covariates
• Hotel Size
• Star rating
• Location
• Hotel Type
Information Technology Competency
Social Media Orientation
H1
H2
Relational Information Processes
H3
H4
Customer Performance
Financial Performance

Figure 1: Conceptual model

Table 1: Internal consistency and convergent validity

Construct	**Cronbach's alpha (α)**	**Average variance extracted**
IT competency	.858	.700
Social media orientation	.940	.679
Relational information processes	.948	.577
• Information reciprocity	.905	.777
• Information capture	.899	.767
• Information integration	.934	.836
• Information access	.934	.835
• Information use	.922	.810
• Value co-creation	.936	.838
Customer performance	.860	.603
Financial performance	.954	.756

Table 2: Discriminant validity

Construct	IT competency	Social media orientation	Relational information processes	Customer performance	Financial performance
IT competency	**.700**	.100	.197	.104	.069
Social media orientation	.312	**.679**	.452	.080	.074
Relational information processes	.444	.672	**.577**	.086	.081
Customer performance	.322	.282	.294	**.603**	.445
Financial performance	.262	.272	.285	.667	**.756**

Note: Diagonal entries represent the average variance extracted of each construct. Entries below diagonal are the correlations between constructs, and entries above diagonal are shared variance between pairs of constructs acquired from confirmatory factor analysis.

Table 3: Predictive accuracy and relevance of model

Construct	**R^2 value**	**Q^2 value**
Relational information processes	.513	.237
• Information reciprocity	.274	.216
• Information capture	.552	.422
• Information integration	.676	.562
• Information access	.474	.399
• Information use	.787	.630
• Value co-creation	.701	.576
Customer performance	.107	.029
Financial performance	.119	.072

Appendix 1

	Loading	t-value
IT competency (1: very low; 7: very high)		
Please rate the IT competency of your hotel relative to each of the following statements:		
• IT knowledge of relevant staff.	.893	17.800
• IT skills of staff.	.844	13.575
• Quality of IT infrastructure (such as hardware, software and support personnel).	.830	24.483
• Use of IT to manage market and customer information.	.775	17.604
Social Media Orientation (1: strongly disagree; 7: strongly agree)		
Our hotel…		
• believes that social media contributes significantly to the collection of important customer information.	.724	14.612
• integrates social media with our overall marketing strategy.	.878	32.344
• integrates social media with offline marketing channels.	.870	38.209
• integrates social media with other online marketing channels.	.888	37.220
• views social media as an important part of the marketing mix.	.825	12.787
• has developed a social media marketing policies.	.762	17.386
• has developed a social media marketing strategy.	.777	20.664
• believes that using social media is integral to our overall company goals and strategy.	.843	24.801
• intends to increasingly focus its marketing efforts on social media in the future.	.832	25.547
Relational Information Processes (1: strongly disagree; 7: strongly agree)		
Information Reciprocity	.523	7.623
Our hotel uses social networking sites to…		
• enable our customers to have interactive communications with us.	.930	64.397
• provide our customers with multiple ways to contact the organisation.	.895	42.190
• focus on communicating periodically with our customers.	.829	19.202
• maintain regular contact with our customers.	.870	26.803
Information Capture	.734	18.822
Our hotel…		
• collects customer information from social networking sites on an ongoing basis.	.908	42.259
• captures customer information relevant to social networking operations from internal sources within the organisation (such as sales, customer service and marketing staff).	.885	40.433
• uses social networking sites to collect customer information from external sources (such as market research agencies, syndicated data sources, and consultants' social networking site pages).	.832	24.657
• updates customer information collected from social networking sites in a timely fashion.	.878	32.879
Information Integration	.822	26.869
Our hotel integrates customer information captured via social networking sites with…		
• customer information from the various functions that interact with customers (such as marketing, sales, and customer service).	.883	26.784
• internal customer information.	.920	58.128
• customer information from different communication channels (such as telephone, mail, e-mail, the Internet, fax and personal contact).	.936	54.320
• information collected from various sources (such as functions and different communications channels) for each individual.	.917	50.673
Information Access	.688	10.789
In our hotel, those employees who are responsible for communicating with customers via social networking sites…		
• find it easy to access required customer information.	.925	52.425
• can access required customer information even when other departments/functional areas have collected it.	.909	36.345
• always have access to up-to-date customer information.	.914	33.228
• have access to the information required to manage customer relationships.	.908	31.176

Information Use	.887	40.477
The combination of information from social networking sites and other business-to-customer interactions is used by our hotel to…		
• develop customer profiles.	.888	38.720
• assess customer retention behaviour.	.911	55.307
• identify appropriate channels to reach customers.	.923	52.232
• customise our offers.	.877	30.281
Value Co-creation	.837	27.609
The combination of information from social networking sites and other business-to-customer interactions is used by our hotel to…		
• interact with customers to design offerings that meet their needs	.894	28.729
• provide services for and in conjunction with customers	.932	54.328
• co-opt (encourage direct) customer involvement in providing services for them	.918	29.430
• provide customers with supporting systems (assistance and support they need) to help them get more value.	.918	53.324
Customer Performance (1: much worse; 7: much better)		
Over the past year, in relation to our business performance…		
• levels of customer satisfaction have been…	.778	6.844
• levels of customer loyalty have been…	.719	4.460
Over the past year, relative to major competitors…		
• levels of customer loyalty have been…	.656	3.762
• the acquisition of new customers has been…	.852	7.915
• the retention of existing customers has been…	.857	8.185
Financial Performance (1: much worse; 7: much better)		
Over the past year, relative to major competitors		
• overall performance has been…	.862	20.733
• sales volume achieved has been…	.851	20.042
• market share has been…	.897	31.564
• overall profits have been…	.891	31.571
• profit margins have been…	.893	37.376
• return on investment has been…	.886	35.573
• return on sales has been…	.819	13.343
• return on assets has been…	.851	29.153